

Title (en)

METHODS AND PRODUCTS FOR EXPRESSING PROTEINS IN CELLS

Title (de)

VERFAHREN UND PRODUKTE ZUR EXPRESSION VON PROTEINEN IN ZELLEN

Title (fr)

PROCÉDÉS ET PRODUITS POUR L'EXPRESSION DE PROTÉINES DANS DES CELLULES

Publication

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Application

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- US 2013068118 W 20131101

Abstract (en)

The present invention relates in part to nucleic acids encoding proteins, therapeutics comprising nucleic acids encoding proteins, methods for inducing cells to express proteins using nucleic acids, methods, kits and devices for transfecting, gene editing, and reprogramming cells, and cells, organisms, and therapeutics produced using these methods, kits, and devices. Methods and products for altering the DNA sequence of a cell are described, as are methods and products for inducing cells to express proteins using synthetic RNA molecules. Therapeutics comprising nucleic acids encoding gene-editing proteins are also described.

IPC 8 full level

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A61P 25/14 (2018.01 - EP); A61P 25/16 (2018.01 - EP); A61P 25/28 (2018.01 - EP); A61P 27/02 (2018.01 - EP); A61P 31/00 (2018.01 - EP);
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Citation (applicant)

- US 201261721302 P 20121101
- US 201361785404 P 20130314
- US 201361842874 P 20130703
- US 201213465490 A 20120507
- US 2012067966 W 20121205
- US 201313931251 A 20130628
- US 2012064620 A1 20120315 - BONAS ULLA [DE], et al
- US 2011239315 A1 20110929 - BONAS ULLA [DE], et al
- US 8470973 B2 20130625 - BONAS ULLA [DE], et al
- US 2013217119 A1 20130822 - BONAS ULLA [DE], et al
- US 8420782 B2 20130416 - BONAS ULLA [DE], et al
- US 2011301073 A1 20111208 - GREGORY PHILIP D [US], et al
- US 2011145940 A1 20110616 - VOYTAS DANIEL F [US], et al
- US 8450471 B2 20130528 - VOYTAS DANIEL F [US], et al
- US 8440431 B2 20130514 - VOYTAS DANIEL F [US], et al
- US 8440432 B2 20130514 - VOYTAS DANIEL F [US], et al
- US 2013122581 A1 20130516 - VOYTAS DANIEL F [US], et al
- US 61664494 P
- US 2008213377 A1 20080904 - BHATIA SANGEETA N [US], et al
- US 8497124 B2 20130730 - ANGEL MATTHEW [US], et al
- US 61637570 P
- ANGEL., MIT THESIS, 2008, pages 1 - 56
- ANGEL ET AL., PLOS ONE, vol. 5, 2010, pages 107
- WARREN ET AL., CELL STEM CELL, vol. 7, 2010, pages 618 - 630
- ANGEL, MIT THESIS, 2011, pages 1 - 89
- LEE ET AL., CELL, vol. 151, 2012, pages 547 - 558
- J. PHARMA. SCI., vol. 66, 1977, pages 2 - 19
- "The Handbook of Pharmaceutical Salts; Properties, Selection, and Use", 2002, VERLAG
- "Physicians' Desk Reference", 27 December 2011, PDR NETWORK

Citation (search report)

- [I] WO 2011154393 A1 20111215 - HELMHOLTZ ZENTRUM MUENCHEN [DE], et al
- [I] WO 2010079430 A1 20100715 - BONAS ULLA [DE], et al
- [I] US 2012270273 A1 20121025 - ZHANG FENG [US], et al
- [I] WO 2012104729 A1 20120809 - BONAS ULLA [DE], et al
- [I] WO 2007006808 A1 20070118 - NOVO NORDISK HEALTHCARE AG [CH], et al

- [I] "Current Protocols in Molecular Biology", 1 October 2012, JOHN WILEY & SONS, INC., Hoboken, NJ, USA, ISBN: 978-0-47-114272-0, article DEEPAK REYON ET AL: "Engineering Designer Transcription Activator--Like Effector Nucleases (TALENs) by REAL or REAL-Fast Assembly", XP055187018, DOI: 10.1002/0471142727.mb1215s100

Cited by

CN113373214A

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WO 2014071219 A1 20140508; AU 2013337651 A1 20150611; AU 2013337651 B2 20181213; AU 2018264115 A1 20181206;
AU 2018264115 B2 20210812; AU 2021250972 A1 20211111; BR 112015009804 A2 20170822; BR 122019025678 B1 20230418;
BR 122019025681 B1 20230418; CA 2890110 A1 20140508; CA 2890110 C 20230502; CA 3150985 A1 20140508; CN 104769112 A 20150708;
EP 2914728 A1 20150909; EP 2914728 A4 20160525; EP 2914728 B1 20200708; EP 3786298 A1 20210303; HK 1214304 A1 20160722;
JP 2015534817 A 20151207; JP 2018113985 A 20180726; JP 2018115207 A 20180726; JP 2021090435 A 20210617;
JP 2024056815 A 20240423; JP 6510416 B2 20190508; JP 6793146 B2 20201202; JP 6890565 B2 20210618; JP 7436406 B2 20240221;
KR 102121086 B1 20200609; KR 102315098 B1 20211021; KR 102596302 B1 20231101; KR 20150080573 A 20150709;
KR 20200067921 A 20200612; KR 20210127818 A 20211022; KR 20230154283 A 20231107; MX 2015005346 A 20150714;
MX 2019002498 A 20211116; MX 363017 B 20190304; RU 2015120524 A 20161220; RU 2019143431 A 20200428; RU 2711249 C2 20200115;
US 10415060 B2 20190917; US 10590437 B2 20200317; US 10724053 B2 20200728; US 10752917 B2 20200825; US 10752918 B2 20200825;
US 10752919 B2 20200825; US 10767195 B2 20200908; US 11332758 B2 20220517; US 11332759 B2 20220517; US 11339409 B2 20220524;
US 11339410 B2 20220524; US 12006508 B2 20240611; US 2015267189 A1 20150924; US 2015275193 A1 20151001;
US 2016251639 A1 20160901; US 2016251649 A1 20160901; US 2017015983 A1 20170119; US 2017218400 A1 20170803;
US 2017362612 A1 20171221; US 2019345519 A1 20191114; US 2020032295 A1 20200130; US 2020032296 A1 20200130;
US 2020032297 A1 20200130; US 2020032298 A1 20200130; US 2020032299 A1 20200130; US 2020040363 A1 20200206;
US 2020040364 A1 20200206; US 2020040365 A1 20200206; US 2020056207 A1 20200220; US 2020325496 A1 20201015;
US 2022243228 A1 20220804; US 9376669 B2 20160628; US 9447395 B2 20160920; US 9464285 B2 20161011; US 9487768 B2 20161108;
US 9657282 B2 20170523; US 9758797 B2 20170912

DOCDB simple family (application)

US 2013068118 W 20131101; AU 2013337651 A 20131101; AU 2018264115 A 20181116; AU 2021250972 A 20211015;
BR 112015009804 A 20131101; BR 122019025678 A 20131101; BR 122019025681 A 20131101; CA 2890110 A 20131101;
CA 3150985 A 20131101; CN 201380056620 A 20131101; EP 13850281 A 20131101; EP 20184168 A 20131101; HK 16102376 A 20160301;
JP 2015540833 A 20131101; JP 2018073676 A 20180406; JP 2018073677 A 20180406; JP 2021027831 A 20210224;
JP 2024018042 A 20240208; KR 20157013918 A 20131101; KR 20207015879 A 20131101; KR 20217033133 A 20131101;
KR 20237036946 A 20131101; MX 2015005346 A 20131101; MX 2019002498 A 20150427; RU 2015120524 A 20131101;
RU 2019143431 A 20131101; US 201514701199 A 20150430; US 201514735603 A 20150610; US 201615156806 A 20160517;
US 201615156829 A 20160517; US 201615270469 A 20160920; US 201715487088 A 20170413; US 201715670639 A 20170807;
US 201916523558 A 20190726; US 201916654532 A 20191016; US 201916654536 A 20191016; US 201916654726 A 20191016;
US 201916655744 A 20191017; US 201916655760 A 20191017; US 201916655766 A 20191017; US 201916657318 A 20191018;
US 201916657321 A 20191018; US 201916657325 A 20191018; US 202016912321 A 20200625; US 202217718668 A 20220412